(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 14 April 2005 (14.04.2005)

PCT

(10) International Publication Number WO 2005/033288 A3

- C07D 211/70, (51) International Patent Classification7: 239/00, 311/80, 311/82, 417/00, A61K 31/44, 31/385,
- 31/425
- (21) International Application Number:

PCT/US2004/032482

(22) International Filing Date:

29 September 2004 (29.09.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/507,164

29 September 2003 (29.09.2003) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

US Filed on

60/507,164 (CIP) 29 September 2003 (29.09.2003)

- (71) Applicant (for all designated States except US): THE JOHNS HOPKINS UNIVERSITY [US/US]; 3400 N. Charles Street, Baltimore, MD 21218 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): BEACHY, Philip, A. [US/US]; 7818 Chelsea Street, Towson, MD 21204 (US). CHEN, James, K. [US/US]; 201 Swain Way, Palo Alto, CA 94304 (US). TAIPALE, Anssi, J. [FI/US]; Molecular/cancer Biology Program Biomedicum, Room B502B, P.O. Box 63, Haartmaninkatu 8, University of Helskinki, Fin, 00014 Finland (FI).

- (74) Agent: HAILE, Lisa, A.; Gray Cary Ware & Freidenrich LLP, 4365 Executive Drive, Suite 1100, San Diego, CA 92121-2133 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US (patent), UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 13 October 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HEDGEHOG PATHWAY ANTAGONISTS

(57) Abstract: Aromatic compounds for treating various diseases and pathologies are disclosed. The methods use of such compounds are also provided. Accordingly, the present invention makes available methods and compositions for inhibiting aberrant growth states resulting from hedgehog gain-of-function, ptc loss-of-function or smoothened gain-of-function.



